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THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: Wilfred H. Nelson et al.

GROUP: 1641

SERIAL NO: 08/818,534

EXAMINER: J. Hines

FILED: 03/14/97

FOR: DIRECT DETECTION OF BACTERIA-ANTIBODY
COMPLEXES VIA UV RESONANCE RAMAN
SPECTROSCOPY

TECH CENTER 1600/2900

JAN 22 2002

RECEIVED

Assistant Commissioner of Patents
Washington, D.C. 20231

Sir:

DECLARATION

Now comes Chris Brown who declares as follows:

- 1) That I am a professor of Chemistry at the University of Rhode Island, Kingston, Rhode Island;;
- 2) That I have been engaged in research since about 1962;
- 3) That attached hereto is my *curriculum vitae*;
- 4) That I have published many research papers and have performed extensive research in the field of chemical spectroscopy with emphasis on UV-Visible, Near-Infrared, Mid-Infrared Absorption and Raman Spectroscopies;
- 5) That I have read the above-referenced application, including the added claims that were filed in the United States Patent and Trademark Office on May 7, 2000, the Office Action dated July 10, 2001, amended claim 12 as set forth in the amendment filed concurrently

herewith, United States Patent Number 4,847,198 issued to Nelson et al. (Nelson et al.), United States Patent Number 5,512,492 issued to Herron et al. (Herron et al.), United States Patent Number 5,266,498 issued to Tarcha et al. (Tarcha et al.), United States Patent Number 5,126,244 issued to Muller et al. (Muller et al.) and the publication entitled "Ultraviolet micro-Raman spectrograph for the detection of small number of bacterial cells" authored by Chada et al. (Chadha et al.);

6) That it was known to those of skill in the art that aromatic amino acids produce resonance Raman spectra when irradiated with light having a wavelength in the range of about 242-257 as evidenced by the publications *Ann. Rev. Biochem.* 1977 , 46, 553-572, Spiro T.G. et al., attached herewith as Exhibit A, *J.Mol. Struct.* 1988 , 173, 79-90, Spiro, T.G. et al., attached herewith as Exhibit B, and *Ann. Rev. Phys. Chem.* 1988 , 39, 537-588, Asher, S. A., attached herewith as Exhibit C; at the time Applicant's invention was made;

7) That because antibodies are comprised of aromatic amino acids, one of skill in the art would have expected that the irradiation of antibodies and/or antibody-antigen complexes with light having a wavelength in the range of about 242-257 nm to produce resonance Raman spectra that would have interfered with the resonance Raman spectra of microorganisms in the sample when practicing the claimed method as set forth in claim 9 or using the claimed system as set forth in claim 12;

8) That, contrary to stated expectation set forth in paragraph 7, the irradiation of the antibody and/or antibody-antigen complexes did not produce resonance Raman spectra that interfered with the Raman spectra of the microorganisms as evidenced by the above-referenced application on page 5;

9) That, in view of the statements set forth in paragraphs 7 and 8, the practice of the claimed method as set forth in claim 9 and/or the use of the claimed system as set forth in claim 12, unexpectedly allows a microorganism to be detected in a sample wherein the ratio of antibody to microorganisms in the sample is at least 200:1 as evidenced by the above-referenced application on page 5.

I, Chris Brown, being hereby warned that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent resulting therefrom and that all statements made of his own knowledge are true and all statements made on information and belief are believed to be true.

By: 
Chris Brown

Date: December 7, 2001

Title: Professor